

REMARKS

The Examiner rejected claims 1 and 8-10 under 35 U.S.C. §102(b) in light of U.S. Patent No. 4,637,289 to Ramsden. Ramsden discloses a saw with a sensor mounted on a guard to sense the presence of a work piece. If the sensor fails to sense the presence of a work piece, then the sensor prevents operation of the saw. Applicant traverses that rejection because Ramsden does not disclose a saw as required by the examined claims. Nevertheless, applicant has amended claims 1, 9 and 10 to further distinguish Ramsden, and applicant has withdrawn claim 8 without prejudice.

Claims 1, 9 and 10 have all been amended to require a blade that is electrically isolated so that it may carry an electric signal and "a detection system adapted to impart an electric signal to the blade, to monitor the signal for a predetermined change in at least one property of the signal, and to interpret any such predetermined change as accidental contact between the user and the blade." Claims 1, 9 and 10 have also been amended to require a reaction system to retract the blade upon detection of the accidental contact. Nothing in Ramsden shows or suggests those limitations. In fact, Ramsden does not even discuss detecting contact between the blade and a user. Thus, Ramsden does not anticipate amended claims 1, 9 or 10.

The Examiner rejected the remaining claims under 35 U.S.C. §103(a) as obvious in light of various combinations of Ramsden, U.S. Patent No. 3,946,631 to Malm, U.S. Patent No. 4,117,752 to Yoneda, U.S. Patent No. 3,785,230 to Lokey, and U.S. Patent No. 5,025,175 to DuBuis, III. Those rejections are traversed. Nevertheless, applicant has

amended all its currently pending claims to further distinguish the cited references.

Applicant has withdrawn claims 2-8, 13, 20-22 and 24 without prejudice.

Whether applicant's amended claims are obvious depends on the following factors: 1) the scope and content of the prior art, 2) the differences between the prior art and the claims at issue, 3) the level of ordinary skill in the pertinent art, and 4) secondary considerations such as a long felt need, the failure of others to satisfy that need, and industry awards and recognition. Graham v. John Deere, 383 U.S. 1, 148 USPQ 459 (1966). These factors are discussed below.

Scope and Content of the Prior Art

The scope and content of the prior art includes the Ramsden, Malm, Yoneda, Lokey and Dubois patents cited by the Examiner.

Differences Between the Prior Art and the Claims

Amended claims 1, 9-12 and 14 are different from the saws disclosed in the cited references. Those claims all require a blade "electrically isolated so that it may carry an electric signal," "a detection system adapted to impart an electric signal to the blade, to monitor the signal for a predetermined change in at least one property of the signal, and to interpret any such predetermined change as accidental contact between the user and the blade," and "a reaction system configured to retract the blade upon detection of such contact by the detection system." Similarly, amended claims 15-19 require "a reaction system configured to retract the spindle and blade upon detection of contact between a user and the blade by the detection system." Amended claim 23 has also been amended to require "a means for retracting the blade." Saws constructed as specified in any of these

claims detect when a person accidentally touches a spinning blade and then immediately retract the blade to minimize any injury.

In contrast, none of the cited references disclose retracting a blade in response to accidental contact between the user and the blade. Ramsden discloses a system to detect whether a workpiece is on a work surface, and the saw will not operate if the workpiece is absent. Ramsden does not suggest retracting a blade in response to accidental contact. In fact, Ramsden does not even detect accidental contact between a user and the blade. Malm simply discloses a standard undercut saw without any discussion about accidental contact with the blade. Yoneda discloses a system that tries to stop a band saw blade when a person contacts the blade, but nothing in Yoneda suggests retracting the blade. Lukey discloses a system that tries to detect when a person comes dangerously close to a blade, and if so, a brake engages the blade to stop the blade. Lukey, like the other cited references, fails to suggest retracting a blade in response to accidental contact. Finally, Dubois discloses a wire mesh glove that interrupts power to the motor when the glove contacts the frame of a meat skinning machine. Dubois fails to suggest retracting a blade in response to accidental contact with the blade.

At most, the cited references suggest stopping a blade upon contact or dangerous proximity; but it is very difficult to stop large blades like those used in up-cut chop saws quickly enough to minimize injury because large blades have significant angular momentum. Consequently, the suggestion to stop a blade upon accidental contact or dangerous proximity teaches away from applicant's claims. Applicant's system of retracting a blade is an alternative to stopping a blade and is particularly applicable to up-

cut chop saws. Thus, retracting a blade in response to accidental contact is a significant difference from the cited references.

The Level of Ordinary Skill

Applicant has not determined the level of ordinary skill in the art, but assumes it is a mechanical engineer with some experience.

Secondary Considerations

Every year in the United States there are over 90,000 people severely injured with power saws, according to the U.S. Consumer Product Safety Commission, National Electronic Injury Surveillance System, Directorate for Epidemiology, 2001.¹ These are all severe injuries that require a visit to a hospital emergency room. About 10% of these injuries result in amputations. The number and severity of these injuries clearly shows there is a long felt need for safer saws. The fact that others have tried to solve this problem is evidenced by the Ramsden, Lokey, and Yoneda patents cited by the Examiner. However, the continued high number of severe injuries shows that those attempts have failed. Fortunately, saws constructed as required by applicant's currently pending claims have the potential to significantly reduce the severity of these injuries. The long felt need for safer saws and the failure of others to satisfy that need supports the conclusion that applicant's claims are non-obvious. (See the declaration of inventor Stephen F. Gass, submitted concurrently, ¶5)

Additionally, the technology which is the basis for saws constructed as required by applicant's currently pending claims has been recognized as new and innovative by

¹ These statistics are publicly available from the U.S. Consumer Product Safety Commission.

various entities associated with the woodworking industry, as shown by the following awards (See Gass Decl. ¶6):

- **Chairman's Commendation.** The U.S. Consumer Product Safety Commission awarded the technology a Chairman's Commendation for significant contributions to product safety. That award was reported nationally on CNN Headline News.
- **Challenger's Award.** At an International Woodworking Fair in Atlanta, Georgia, the technology won the Challenger's Award, which is the woodworking industry's highest honor. It recognizes the most innovative and technically advanced improvements to woodworking equipment.
- **Popular Science – One of the 100 Best New Innovations.** The magazine *Popular Science* identified the technology as one of the 100 best new innovations of 2002.
- **Workbench Magazine – One of the Top 10 Tools for 2003.** *Workbench* magazine included saws incorporating the technology on its list of the top 10 innovative tools for 2003.
- **Woodwork Institute of California Endorsement.** The Woodwork Institute of California has endorsed the technology, stating:

As a Trade Association in the construction industry (representing over 250 manufacturers of architectural millwork with an excess of 4,000 employees, all of whom use saws of one type or another) we find your SawStop technology and its potential of eliminating or reducing worker injury of extreme significance. Generally, we would not endorse a commercial product; however the potential benefit to our members and their employees of implementing the SawStop technology on the tools used within our industry overrides such.

- Editor's Choice Award, Tools of the Trade. The magazine *Tools of the Trade* awarded the technology its 2001 Editor's Choice Award in recognition of its significance.


The technology that is the basis for applicant's currently pending claims has also been the subject of extensive media coverage, including national coverage by CNN Headline News, by the television program NEXT@CNN, by the Associated Press, and by Paul Harvey on the ABC Radio Network. (See Gass Decl. ¶7.) That media coverage indicates that the technology is novel and noteworthy. Numerous magazines have published reports about the technology, and have referred to it as "revolutionary," "unique," and "ingenious." Id.

Summary Concerning Non-Obviousness

The differences between the amended claims and the cited references, the long felt but unsolved need for saws constructed as required by applicant's claims, and the industry recognition and awards given to the technology all support the conclusion that applicant's amended claims are not obvious. Moreover, there is no suggestion in any cited reference to retract a blade in response to accidental contact between a user and a blade. To the contrary, the cited references teach away from retracting a blade by suggesting stopping a blade. Therefore, amended claims 1, 9 and 10 are not obvious.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE

I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office, Attention: Examiner Thomas J. Druan, Jr., Group Art Unit 3724, to facsimile number: (703) 872-9302 on August 21, 2003.



Stephen F. Gass
Date of Signature: August 21, 2003

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Date: August 21, 2003

STEPHEN F. GASS, DAVID A. FANNING,
J. DAVID FULMER and RANDALL J. HUEBNER

Serial No. : 09/955,418

Examiner Thomas J. Druan, Jr.

Filed : September 17, 2001

Group Art Unit 3724

For : TRANSLATION STOP FOR USE IN POWER EQUIPMENT

Commissioner for Patents
Attention: Examiner Thomas J. Druan, Jr.
Group Art Unit 3724
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

DECLARATION OF STEPHEN F. GASS

I, Stephen F. Gass, declare as follows:

1. I am the named inventor in the above-identified application.
2. The claims currently pending in the above-identified application describe woodworking machines that detect accidental contact between a user and a blade and then retract the blade to minimize any injury.
3. In an Office Action mailed May 23, 2003, the Examiner rejected the claims in the above-identified application under either 35 U.S.C. §§102(a) or 103(a) in light of U.S. Patent No. 4,637,289 to Ramsden, U.S. Patent No. 3,946,631 to Malm, U.S. Patent No. 4,117,752 to Yoneda, U.S. Patent No. 3,785,230 to Lokey, and U.S. Patent No. 5,025,175 to

DuBois, III. I am filing this declaration to traverse that rejection and to submit evidence concerning non-obviousness.

4. My educational background is in physics. In 1986 I earned a Bachelor of Science degree in physics from Oregon State University, and graduated summa cum laude. In 1990 I was awarded a Ph.D. degree in physics from the University of California San Diego.

5. The U.S. Consumer Product Safety Commission, National Electronic Injury Surveillance System, Directorate for Epidemiology, reports that every year in the United States there are over 90,000 people severely injured with power saws. These are all severe injuries that require a visit to a hospital emergency room. About 10% of these injuries result in amputations. The number and severity of these injuries shows there is a long felt need for safer saws. Others have tried to solve this problem, as evidenced by the Ramsden, Lokey, and Yoneda patents cited by the Examiner. However, the continued high number of severe injuries shows that those attempts have failed. I believe saws constructed as required by the claims currently pending in the above-identified application have the potential to significantly reduce the severity of these injuries.

6. The technology which is the basis for saws constructed as required by applicant's currently pending claims has been recognized with the following awards:

- Chairman's Commendation. The U.S. Consumer Product Safety Commission awarded the technology a Chairman's Commendation for significant contributions to product safety. That award was reported nationally on CNN Headline News.

- **Challenger's Award.** At an International Woodworking Fair in Atlanta, Georgia, the technology won the Challenger's Award, which is the woodworking industry's highest honor. It recognizes the most innovative and technically advanced improvements to woodworking equipment.

- **Popular Science – One of the 100 Best New Innovations.** The magazine *Popular Science* identified the technology as one of the 100 best new innovations of 2002.

- **Workbench Magazine – One of the Top 10 Tools for 2003.** *Workbench* magazine included the saws incorporating the technology on its list of the top 10 innovative tools for 2003.

- **Woodwork Institute of California Endorsement.** The Woodwork Institute of California has endorsed the technology, stating:

As a Trade Association in the construction industry (representing over 250 manufacturers of architectural millwork with an excess of 4,000 employees, all of whom use saws of one type or another) we find your SawStop technology and its potential of eliminating or reducing worker injury of extreme significance. Generally, we would not endorse a commercial product; however the potential benefit to our members and their employees of implementing the SawStop technology on the tools used within our industry overrides such.

- **Editor's Choice Award, Tools of the Trade.** The magazine *Tools of the Trade* awarded the technology its 2001 Editor's Choice Award in recognition of its significance.

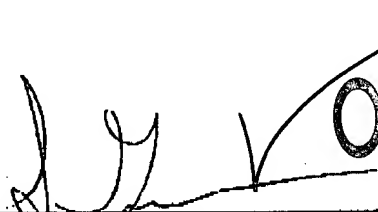
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7. The technology that is the basis for the currently pending claims has also been the subject of extensive media coverage, including national coverage by CNN Headline News, by the television program NEXT@CNN, by the Associated Press, and by Paul Harvey on the ABC Radio Network. Numerous magazines have published reports about the technology saying it is "revolutionary," "unique" and "ingenious."


8. I hereby declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Date: August 21, 2003


OFFICIAL
STEPHEN F. GASS

CERTIFICATE OF FACSIMILE

I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office, Attention: Examiner Thomas J. Drumm, Jr., Group Art Unit 3724, to facsimile number: (703) 872-9302 on August 21, 2003.


Stephen F. Gass
Date of Signature: August 21, 2003